

be seen in the Ministry's endorsement of strategies, such as the Integrated Management Cascade, and its creation of a "basket" of funds – modeled after the TEHIP top-up that funded innovations such as the management cascade and the facility renovations. The Ministry now provides these funds to Tanzania's other districts by pooling its health sector contributions from international donors.

Expanding future influence

The loudest note of caution was sounded by interviewees who feared that TEHIP would be swallowed by the "project trap" – that the influence of TEHIP would cease after the project had wound down. They also feared that the Ministry would not adequately promote the use of the tools and

strategies throughout the country. TEHIP has developed an "exit strategy" to ensure that training: it includes the creation of Zonal Training Centres, operated by the MoH that will train trainers on the use of the tools. They will, in turn, be sent to other districts.

Clearly, TEHIP has created linkages between research and policy formation in a number of different ways. The real test of its influence, however, will be whether TEHIP's approach and its specific innovations (such as the planning tools, which are portable and adaptable to other national contexts) will move beyond the demonstration districts to bring improvements to health systems in the rest of Tanzania and, indeed, to other countries facing similar circumstances.

The TEHIP “Spark” Leads to Better Health

Integrating research and development was key in Tanzania

The Tanzania Essential Health Interventions Project (TEHIP) is a research and development partnership involving Tanzania’s Ministry of Health and Canada’s International Development Research Centre (IDRC). It was established to test innovations in planning, priority setting, and resource allocation at the district level. The results make a powerful case that using research to make health spending more proportional to the prevailing burden of disease can have a significant, positive impact on health outcomes.

With a per capita income of CA\$370, Tanzania is one of the poorest countries in the world and, like other countries of sub-Saharan Africa, has seen a series of grim health indicators worsen. Conditions such as malaria, tuberculosis, malnutrition, anemia, and HIV/AIDS have cut a deadly path across the continent, and national health systems have buckled under the strain. In Tanzania, as in other countries, economic deprivation and the health crisis feed off each other. The lack of resources makes Tanzanians more vulnerable to the effects of illness and diminishes the government’s ability to fund health services. Succumbing to sickness, in turn, reduces citizens’ capacity to generate income.

This dual burden does not make Tanzania unique, but it does make the country a fitting home for a demonstration project that has sought to determine if finding better ways of allocating health care resources could help revive moribund health systems and save lives. Originally known as the Essential Health Interventions Project (EHIP), the project found its initial inspiration in a suggestion – contained in the World Bank’s *World Development Report* of 1993 (WDR’93) – that quite modest new investments in health care could have significant impact if those funds were applied to cost-effective health interventions targeting the most significant causes of death and disability. WDR’93 proposed that merely raising developing countries’ health care spending to around \$17 (US\$12) per capita (an infinitesimal portion of the \$3,900 per capita spent each year on health care in Canada, for example) could lower the burden of disease rate by 25 percent, if the new funds were applied where they would have the greatest impact.

Tanzania, which was in the midst of health care reforms involving the devolution of planning responsibility from the centre to the district, applied to become the host country to test the WDR’93 hypothesis. With that, EHIP changed its name to TEHIP, and the program was re-oriented as a collaborative joint venture between the Republic of Tanzania and IDRC, housed within Tanzania’s Ministry of Health (MOH) and combining the efforts of local researchers, international advisors, district health planners, health facility clinicians, and whole communities.

Local level action

The TEHIP team focused its work in two districts: Rufiji and Morogoro. TEHIP’s primary functions were to facilitate the generation of research and to develop a series of tools and strategies that would help those districts’ District Health Management Teams (DHMTs) allocate funds and design packages of health interventions that more directly responded to evidence about the local “burden of disease.” To generate the evidence, TEHIP supported local District Sentinel Surveillance Systems (DSS), which used enumerators to regularly collect data from households in the districts, thus providing up-to-date vital statistics.

TEHIP also developed a series of computer-based planning tools to help DHMTs understand the relevance of that DSS-generated evidence to the health planning process. For example, the “Burden of Disease Profile Tool” simplifies and communicates complex information on local burden of disease by transforming it into easy-to-read graphs,



tables, and charts. Instead of presenting the burden of disease by specific disease categories, the profiles emphasize the proportional burden addressed by various essential health interventions.

The “District Health Accounts Tool” graphically shows how individual spending commitments coalesce as an overall plan, whether they conform to Ministry requirements, where the funding is coming from, and how – proportionally – it is being spent. DMHTS used those tools to adjust their budgets so that less would be spent on treating marginal illnesses that had previously consumed an amount of funding disproportionate to their impact on mortality. As a result, new investments could be made in areas like the treatment and prevention of malaria and, because malaria and childhood diseases were shown to contribute greatly to local mortality rates, the Integrated Management of Childhood Illnesses.

Parallel with the provision of these planning tools, TEHIP provided small amounts of top-up funds that DMHTS could apply to what they saw as major weaknesses in the district health systems. This led to the implementation of new initiatives, such as the Integrated Management Cascade that breaks the health system into tiers and local clusters. This “cascading” organizational structure facilitates the supervision of health facilities and gives them easier access to drugs, lab tests, emergency consultations, and other services provided from higher levels. Funds were also applied to rehabilitating health facilities, with communities themselves providing labour and some of the materials.

The role of research

As these actions suggest, research was not a discreet or self-contained element of TEHIP’s work, but part of a combined, interlocking “research and development” agenda that used research data as a raw material contributing the creation of concrete and timely improvements within the health system. In this respect, TEHIP was unique among IDRC-supported projects: it was one of very few projects to have the funding and mandate to move its research findings forward into the development stage. In the field, this clear link between research and development set TEHIP apart from typical research projects, giving TEHIP a higher level of credibility among busy health workers who might otherwise have seen the arrival of researchers from the capital as a fruitless distraction or a drain on their time.

Employees struggling to keep an overstretched health system functioning knew that “the goal of TEHIP’s approach was not just to produce some papers for *The Lancet*,” remarks TEHIP project manager Graham Reid. “It was actually working with a living system, in context, working with people, and trying to influence a health system that was already in the process of being changed.”

Stephanie Neilson of IDRC’s Evaluation Unit, who interviewed a wide variety of workers within the Tanzanian health system, agrees that the practical orientation of the research encouraged a “buy-in” to the project’s goals and methods by participants, ranging from ministry and district planners, to village health workers, to individuals within communities. “The way it was often articulated to us,” she says, “is that this wasn’t the kind of abstract, theoretical research where people come in, try to prove something, and then walk away. They were trying to do something that would be valuable and useful to people on the ground.”

“What people in Tanzania’s health sector really identify with TEHIP are the planning tools – particularly the burden of disease and resource allocation tools,” she says. “They are things that give people a greater capacity to go about their work. In the communities, people really associate TEHIP with the rehabilitation of health facilities. That whole exercise gave people the resources, skills, and tools to maintain their own health facilities, and it told people in the communities that the goal of TEHIP was to actually improve the system.”

In fact, the research and development functions of TEHIP were so closely intertwined that it was often difficult to ascertain where one left off and the other began. Staff were organized in an integrated team structure, for example, where the researchers and the development specialists were highly aware of and highly dependent upon each other’s work. Forming a kind of continuous “feedback loop,” the development side depended upon a steady stream of research to determine whether the tools and strategies were working, how they could be improved, and what new interventions might be needed at the next phase of work. Researchers crafted their agendas around the practical requirements of developing and implementing those new tools and strategies.



The research component was divided into three modules examining:

- ❑ *health systems* – how planning took place and how the health system operated;
- ❑ *health seeking behaviour* – how, when, and why community members sought health care and what their experience was; and
- ❑ *health outcomes* – what level of health and burden of disease existed.

Ongoing work in these three areas of inquiry allowed researchers to submit new innovations to continual evaluation: were new developments changing the way planners plan? Were they improving the public's experience of the health care system? Were they improving health outcomes and reducing mortality? And where should we go from here?

Multiple layers of influence

To assess whether TEHIP succeeded in influencing public policy in Tanzania, IDRC's Evaluation Unit looked at a number of possible types of policy influence. Evaluators considered whether TEHIP had helped expand Tanzania's policy capacities (e.g. by increasing the ability of Tanzanian health officials to use research), whether it had broadened the range of debate around research and policy issues, and whether it had an impact on the actual policies that were adopted by government.

Stephanie Neilson remarks that while all those forms of influence are important, an area where TEHIP had perhaps its most profound impact was in broadening the debate and altering the dominant thinking on the use of research in policy formation. "It was said to us by many people, on numerous occasions, that the idea of planning based on evidence has influenced the way the health sector operates," she says. "Not only that, but it has crossed boundaries, seeping into other areas like education."

Dr Gabriel Upunda, Tanzania's Chief Medical Officer, agrees that there has been a shift in perspectives and practice across the entire decision-making structure. "We have learnt the use of data in making decisions," he declares. "Fortunately, the outlook of our National Institute for Medical Research is now oriented in the same way. This means that, whenever there is a decision to be made, there is evidence on which to base

that decision. I can go to the politicians and tell them 'you have this to decide, and here is the information that we have from a scientific point of view'."

One obvious reason why decision-makers appear to have embraced the use of research in policymaking is that the introduction of evidence-based planning has been associated with a dramatic improvement in health outcomes in the demonstration districts. In the four years following the introduction of evidence-based planning (and with financial top-ups amounting to only US \$1 per capita per year) child mortality rates have fallen by 46% in Rufiji and 43% in Morogoro. In the same period, Rufiji's mortality rate for adults between 20 and 50 fell by 18%. These results make a powerful case that using research to make health spending more proportional to the prevailing burden of disease can have a significant, positive impact on health outcomes. This dramatic demonstration was arguably the most critical factor in promoting a new "culture of planning" within the Tanzanian health system.

Capacity and content

The evaluation team also found that TEHIP significantly influenced workers' capacity to use research and policy content. A great deal of health planners' increased capacity to use research in support of policymaking was attributed to the provision of the planning tools. The tools provided a critical link between research and planning by expressing data in a simple form that DHMTs could use in their daily work (for instance, through charts that translated mortality figures into "intervention-addressable shares" of Burden of Disease). "It wasn't until TEHIP came here that we used the information [generated by household surveillance]," said one district team member. Another interviewee told the IDRC evaluation team that "before, the Ministry talked about information, but they didn't see how they could use it, didn't see how they could display it. Now they do."

The ongoing impact of TEHIP is also reflected in recent changes to Tanzanian health policy. By helping to facilitate the presentation of relevant mortality information, for instance, TEHIP helped move malaria higher up on the agendas of both the districts and the Ministry of Health, which intensified its national anti-malaria campaigns by increasing the promotion of insecticide-treated bed nets. It also switched to more effective anti-malarial drugs. The lasting impact of TEHIP can also

